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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/588,996	06/06/2000	Hisashi Ohtani	07977/220002/US3527/3777D	9311

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EXAMINER

CHUNG, DAVID Y

ART UNIT PAPER NUMBER

2871

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/588,996	Applicant(s) OHTANI ET AL.	
	Examiner David Y. Chung	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7,11-16,20-22 and 26-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 is/are allowed.
- 6) ☒ Claim(s) 2,4-7,11-16,20-22 and 26-31 is/are rejected.
- 7) ☒ Claim(s) 32-38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/008,412.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 1. Claims 14-16 and 20-22 rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (U.S. 5,510,916).**

As to claims 14 and 20, note figures 3A and 3B. Takahashi discloses a first substrate 101, second substrate 108, source lines 103, gate lines 102, pixel 106, and storage capacitor electrode 107. The rubbing is done in the direction indicated by arrow 113 in figure 3A. Takahashi teaches that it was known that disclination is liable to occur in the pixel electrode at a side where a rubbing starts on the main plate. See column 6, lines 5-15. Takahashi also teaches overlapping the storage capacitor with a portion of the pixel on the basis of a rubbing direction by paying attention to generation of disclination, which in this case is the corner with the thin film transistor. See column 5, lines 14-20.

As to claims 15 and 21, Takahashi discloses a bottom-gate thin film transistor in figure 1.

As to claims 16 and 22 because the recitation of intended use does not result in a structural difference between the claimed invention and the prior art of Takahashi, it does not patentably distinguish the claims. If the prior art is capable of performing the intended use, the claims are considered met. See MPEP § 707.07.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**2. Claims 2, 4-7, 11-13 and 26-31 rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (U.S. 5,708,485) in view of Ueda et al. (U.S. 5,459,596), Miyazawa (U.S. 5,781,260), Hanazawa et al. (U.S. 5,835,171), Koseki et al. (U.S. 5,345,324) and Takahashi (U.S. 5,510,916).**

As to claims 2, 4, 5, 11, 26 and 29, Sato discloses an active matrix display device having a structure as shown in figures 1 and 2. Note the thin film transistor 7, semiconductor thin film 10, source line 9, gate line 8, pixel electrode 6, matrix array

substrate 1, opposing substrate 2, and liquid crystal layer 3. A storage capacitor is formed between the metal interconnect 12 and the light blocking layer 16M with insulating layer 17 therebetween.

Sato does not disclose rubbing an alignment layer in one direction from one corner of the pixel. However, this was common and conventional at the time of invention as evidenced by the disclosures of Koseki, Hanazawa, Miyazawa, and Ueda. See column 20, line 53 – column 21, line 4 of Ueda. Note in figure 3 of Miyazawa, the crossed arrows denoting the direction of the alignment treatment on the upper and lower substrates, respectively. Note in figure 7 of Hanazawa, the diagonal arrow denoting the rubbing direction of the orientation film. Note in figures 5A, 7A and 8-10 of Koseki, arrow 9 showing the rubbing direction. The benefits of this conventional rubbing technique included lowering manufacturing costs and producing a device with predictable behavior. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to rub the alignment layer in one direction from one corner of the pixel because of the aforementioned benefits.

Sato does not disclose that disclination is likely to occur in the corner with the thin film transistor and storage capacitor due to a rubbing operation. Takahashi teaches that it was known that disclination is liable to occur in the pixel electrode at a side where a rubbing starts on the main plate. See column 6, lines 5-15. Takahashi also teaches overlapping the storage capacitor with a portion of the pixel on the basis of a rubbing direction by paying attention to generation of disclination. See column 5, lines 14-20. Therefore, it would have been obvious to one of ordinary skill in the art at the time of

invention to overlap the storage capacitor in the corner where rubbing begins due to the likelihood of disclination in that region, as taught by Takahashi.

As to claims 6, 12, 27 and 30, Sato discloses a top-gate thin film transistor in figure 1.

As to claims 7, 13, 28 and 31, because the recitation of intended use does not result in a structural difference between the claimed invention and the prior art of Sato, it does not patentably distinguish the claims. If the prior art is capable of performing the intended use, the claims are considered met. See MPEP § 707.07.

### ***Response to Arguments***

Applicant's arguments with respect to claims 2, 4-7, 11-16, 20-22 and 26-31 have been considered but are moot in view of the new ground(s) of rejection.


### ***Allowable Subject Matter***

Claim 1 allowed.

Claims 32-38 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Chung whose telephone number is (571) 272-2288. The examiner can normally be reached Monday-Friday 9:30 am to 6:00 pm.

  
TOANTON  
PRIMARY EXAMINER